

**SYLLABUS**  
for the discipline:

*Product Lifecycle Management with SAP PLM*

**FACULTY OF AUTOMATION AND COMPUTERS**

**DOMAIN/SPECIALIZATION: System Engineering / Computers and Information Technology**

**Year of studies:** III / IV

**Semester:** 1

<b>Course instructor:</b>					
<b>Applications instructor:</b>					
<b>Number of hours/week/Evaluation/Credits</b>					
<b>Course</b>	<b>Seminary</b>	<b>Laboratory</b>	<b>Project</b>	<b>Evaluation</b>	<b>Credits</b>
<b>2</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>D</b>	

**A. COURSE OBJECTIVES**

*PLM is the management of product data and technical processes across the product lifecycle. PLM solutions include PDM systems for the management of product-defining information. These can be e.g. requirements, specifications, design drawings, 3D and 2D CAD models, analysis and simulation results, or change states.*

*PLM is today the central backbone of product engineering processes in which one or more companies are involved.*

*PLM has interfaces to other important systems in the company, particularly for ERP (Enterprise Resource Planning), which control the production.*

*The students will learn the general structure and functions of the application of PDM systems and PLM solutions. The theory part covers in-depth topics such as PLM processes, IT basis for PDM systems, economic evaluation and organization of PLM implementation projects.*

*In the exercises, participants apply the theoretical knowledge on the SAP PLM system. Participants work with SAP PLM 7.01 at the Hella SAP training system.*

*Language will be English, German is also possible.*

**B. COURSE SUBJECTS**

1. *PLM basics [2]*
2. *PLM Strategy [2]*
3. *PDM systems basis and technologies [2]*
4. *Product planning [2]*
5. *Product structure [2]*
6. *Process- and Data management [2]*
7. *Virtual Product Development [2]*
8. *Collaborative engineering [2]*
9. *Distributed Development Locations [2]*
10. *Optimization of engineering processes [2]*
11. *Construction Modules [2]*
12. *Variations and change management [2]*
13. *Cost management for engineering processes [2]*
14. *Quality Management for engineering processes [2]*

**C. APPLICATIONS SUBJECTS (laboratory, seminar, project)**

*Exercises will take place at the Hella training lab for SAP PLM in the SAP PLM 7.01 system with real life examples from Hella. The most important aspects of PLM will be trained on the system followed by exercises the students have to work out on their own. There are 12 PCs in the class room for up to 24 students (2 per PC). The laboratory will be a block of 3 days at the end of the semester.*

- *PLM processes [2]*
- *Basic introduction to SAP PLM system [2]*

- PDM document management [4]
- PDM material management [6]
- PDM bill of material management BOMt [6]
- PDM engineering change process management ECM [4]

## D. REFERENCES

Presentations 2011:

- SAP® Product Lifecycle Management Conference 2011: „SAP PLM 7 – old wine in new skins?“  
<http://www.sap.com/germany/about/events/search/overview/index.epx?EventID=7816>
- DSAG (German SAP Users congress 2011): „SAP PLM 7 into business“  
[http://www.dsag.de/en/dsaghome/events/overview/details/veranstaltung/dsagveranstaltung/20111011/list88/kalender/DSAG\\_Jahreskongress\\_2011.html?tx\\_cal\\_controller%5Boffset%5D=1&cHash=28d35a890f](http://www.dsag.de/en/dsaghome/events/overview/details/veranstaltung/dsagveranstaltung/20111011/list88/kalender/DSAG_Jahreskongress_2011.html?tx_cal_controller%5Boffset%5D=1&cHash=28d35a890f)
- SAP Automotive Symposium 2011: Presentation „Advantages for the product engineering with SAP PLM 7.01“  
<http://www.sap.com/community/showdetail.epx?itemID=24047>
- SAP Interview on PLM:  
<http://www.sap.com/germany/asset/index.epx?id=268b027c-3344-4b61-a8c0-d0f0dfb38ab8&name=Hella-runs-SAP---A-customer-reference-from-Emanuel-Slaby>

Papers:

1. E. Slaby, J. Stjepandic, J. Hechler, B. Pfeiffer: Domänenübergreifende Optimierung in der frühen Phase. In: Tagungsband (CD) Virtual Reality und Augmented Reality zum Planen, Testen und Betreiben technischer Systeme, Fraunhofer-Institut für Fabrikbetrieb und –automatisierung IFF, Magdeburg, 2007
2. E. Slaby: Global verteilte Produktentwicklung unter Know-how-Schutz Gesichtspunkten. In Tagungsband VDI-Wissensforum CAD-Daten „top Secret“, München 2008
3. E. Slaby: Know-how-Schutz bei global verteilter Produktentwicklung. In: Digital Engineering Magazin 2009, H. 3
4. E. Slaby, M. Schmidt: Internes und externes Produktdatenmanagement von CAD- und CAE-Daten in der verteilten Entwicklung. In: Die digitale Produktentwicklung II, Gerhard Tecklenburg (Hrsg.), Renningen: expert verlag 2010. ISBN 978-3-8169-2961-1
5. M. Eigner, M. Langlotz, F. Nem, E. Slaby: Prozessorientierte Entscheidungsunterstützung im Änderungswesen. In: Newsletter Berliner Kreis, Ausgabe 16 Juni 2011. ISSN 1613-5504
6. E. Slaby, B. Daum: Einführung einer frühen Entwicklungsstückliste auf Basis von SAP PLM. ProSTEP iViP e.V.: Produkt Daten Journal (2011), Nr. 2, S. 46-49. <http://scn.sap.com/docs/DOC-29732>

## E. EVALUATION PROCEDURE

Practical test

## F. INTERNATIONAL COMPATIBILITY

1. University of Kaiserslautern - Department of Mechanical and Process Engineering - VPE - Institute of Virtual Product Development Prof. Dr.-Ing. M. Eigner
2. RWTH Aachen - Institute for Engineering Design Univ.-Prof. Dr.-Ing. Jörg Feldhusen
3. Helmut-Schmidt-University - Dept. of Mechanical Engineering - Machine Elements and Computer-aided Product Development (Prof. Mantwill)

Date:

Sept., 18, 2012

**HEAD OF DEPARTMENT AIA**

**Prof. dr. ing. Ioan Silea**

**HEAD OF DEPARTMENT CTI**

**Prof. dr. ing. Vladimir Crețu**

**COURSE INSTRUCTOR,**

**Dr. Emanuel Slaby**